

## CLAIMS:

1. A higher-order moment-based image projection method comprising: when projecting three-dimensional data onto a projection plane,  
 5 determining a pixel value at a point of intersection of a projection axis and the projection plane based on:

$$P = \left| \left( \sum_{i=1}^n Vi / n \right)^r - \sum_{i=1}^n (Vi / n)^r \right|^{1/r},$$

where the number of three-dimensional data values along said projection axis is denoted by  $n$ , a data value is denoted by  $Vi$ , and a real number greater than one  
 10 is denoted by  $r$ .

2. The higher-order moment-based image projection method of claim 1, wherein  $2 \leq r \leq 128$ .

15 3. The higher-order moment-based image projection method of claim 1, wherein an operator is allowed to change  $r$ .

4. An image processing apparatus comprising: three-dimensional data storage means for storing three-dimensional data; projection direction  
 20 specifying means for use by an operator to specify a projection direction; higher-order moment-based image projection means for determining a pixel value at a point of intersection of a projection axis and a projection plane based on:

$$P = \left| \left( \sum_{i=1}^n Vi / n \right)^r - \sum_{i=1}^n (Vi / n)^r \right|^{1/r},$$

25 where the number of three-dimensional data values along said projection axis is denoted by  $n$ , a data value is denoted by  $Vi$ , and a real number greater than one

is denoted by  $r$ ; and projection image display means for displaying a projection image.

5. An image processing apparatus comprising: three-dimensional  
 5 data storage means for storing three-dimensional data; projection direction  
 specifying means for use by an operator to specify a projection direction;  
 higher-order moment-based image projection means for determining a pixel  
 value  $G$  at a point of intersection of a projection axis and a projection plane as:

$$G = \left| \left( \sum_{i=1}^n Vi/n \right)^r - \sum_{i=1}^n (Vi/n)^r \right|^{1/r},$$

- 10 where the number of three-dimensional data values along said projection axis is  
 denoted by  $n$ , a data value is denoted by  $Vi$ , and a real number greater than one  
 is denoted by  $r$ ; and projection image display means for displaying a projection  
 image.

- 15 6. The image processing apparatus of claim 4 or claim 5, wherein  
 $2 \leq r \leq 128$ .

7. The image processing apparatus of claim 4 or claim 5, further  
 comprising: order specifying means for use by the operator to specify  $r$ .